FirstNet Early Builders





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NPSBN Early Builders



Five states have approval to build limited systems:

- Texas Harris County LTE
- California LA-RICS
- New Mexico
- Colorado Adams County
- New Jersey

FirstNet Early Builders



Project	Planned Sites	On-Air	Primary Focus Areas / Key Learning Conditions (KLCs)
1. LA-RICS	77	61	Secondary responders partnerships, Quality of Service, priority/pre-emption
2. NM	7	7	Hosted core, int'l border spectrum management, Federal partnerships
3. NJ*	32	31	Deployable assets, Disaster Recovery, training exercises, Network Operations Center notification
4. ADCOM	20	19	PSCR program/FirstNet test support, Band Class 14 device testing, demonstration access
5. TX	93	24	Core migration, data analytics, rural coverage, special events, LTE training

^{*:} New Jersey Totals Exclude Vehicle Network Systems and Staged Units



ADCOM 911 PSBN



20 Sites Planned 19 On Air Operational



For more info:

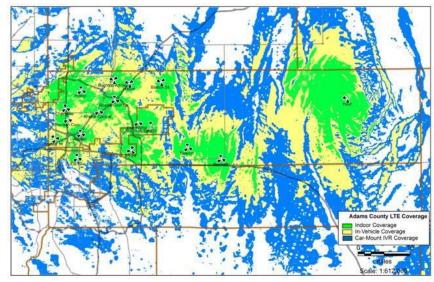
http://www.adcom911.org/lte

"Public Safety LTE Demonstration Network, Final Report," FirstNet Colorado, May 2015.

https://drive.google.com/file/d/0Bz1j7r1gtoiTRDISZnVWT 0FJNDA/view

Highlights

- Usage on network increasing
- In process of adding sites for support for Denver International Airport (DIA) users
- Most active agency is Northglenn Police Department
- Adams Co SO planning 1Q17



Coverage map from Nov 16 SPOC update

LESSONS THUS FAR

- Struggles to maintain network with costs and limited staffing
- Maintaining consistent access to KPIs after core upgrade a challenge

State of New Mexico



New Mexico FirstNet

7 On Air*

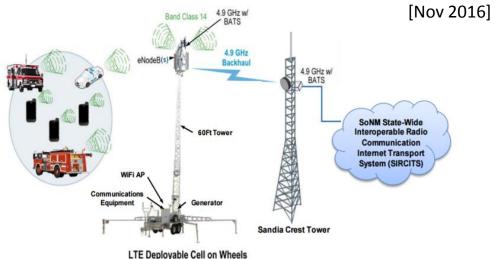
Operational

Image & Content Source and for more INFO:

http://www.firstnet.doit.state.nm.us/

Highlights

- First to sign statewide Spectrum Lease
 Management Agreement (SMLA)
- Coverage on US Mexico Border at Las Cruces
- Special Events, Balloon Fiesta, State Fair
- In optimization Phase
- Working on Tribal exercise



LESSONS THUS FAR

- Budget constraints forced local core option
- Lack of coverage inhibits adoption
- Loss of key engineering personnel



LA-RICS



Image & Content Source and for more INFO:

http://www.la-rics.org/

- Los Angeles Regional Interoperability Communications System (LA-RICS)
- System used at multiple large events
- Working on adding Sites, NOC
- Initially, project received significant push back due to LTE RF tower emissions



Fig.1 -Existing Mobile Coverage

- (13) Cell on Wheels (CoWs)
- BTOP Grant Funded, deadlines extended
- Proposing 26 more sites, NOC, PSEN migration

LESSONS THUS FAR

- Device provisioning caused delays
- Need remote NOC monitoring, tools

[Nov 2016]

State of New Jersey



32 Deployable Assets 31 On Air

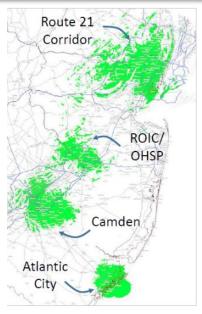
Operational

Image & Content Source and for more INFO: https://www.njhomelandsecurity.gov/jerseynet/

Highlights

- BTOP funded project in closeout period
- Program focus on Deployable Assets
 - Systems on Wheels (SOWs)
 - Cell on Wheels (COWs)
- Project leadership transition in progress

[Nov 2016]







JerseyNet SOW

LESSONS THUS FAR

- Network monitoring far more complex than LMR
- 4.9 GHz microwave good temp backhaul solution
- Device deployment requires strong coordination
- Data analytics key to effective Network Management

Harris County LTE



93 Sites Planned 24 On Air Operational

For more info:

https://hclte.harriscountytx.gov/pages/Default.aspx http://txlte.com/ Brazos County Sheriff's Office -One of first agencies in the US to deploy Band 14 services, via Harris County LTE, and streaming video in all 59 HCLTE and CAD Integration

Control State Stat

Highlights

- Usage on network increasing, planning major push in 1H2017
- All Brazos Co Sheriff's Office Squads equipped with HCLTE
 - Early adopted with test vehicles online in 2013
 - Core hosted by Texas A&M in Brazos County
- Leads in Network Performance Monitoring
- Working on ICAM Proof of Concept

Streaming Video, over HCLTE and Verizon.

Panasonic In-Vehicle Cameras, MSI RTVI



Images: Brazos County Sheriff's Ofc



Harris County LTE Build-Out Status

Current "ON AIR"

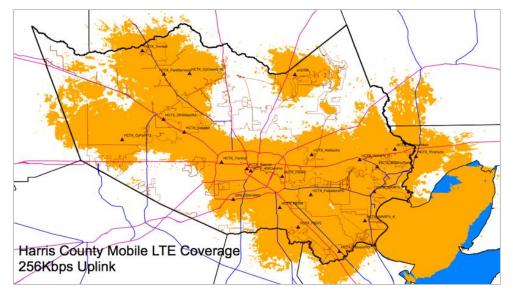
- 36 Sites in Harris County service area
- 1 Site in Brazos County
 - Extended range test site
 - 1 Mobile Unit

Current Build Out

- 13 Sites under construction
 - 15 existing sites
 - 4 New Locations

Operational Activities

- Back Office System Eval
- Go-to-market Planning



24 sites of the full 38 site Phase 1 County-wide network complete

Houston Rodeo Event Support

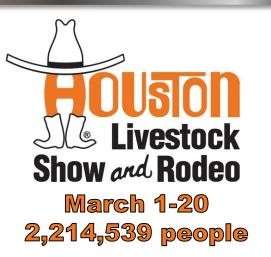


World Championship Bar-B-Que Contest

Feb 25-27 247,491 people

Summary of Rodeo Events

- 25 days
- 1,000+ Public Safety Personnel
- 30,000+ Volunteers
- 2,462,030 Visitors
- 30,911 Livestock entries





Houston Livestock Show and Rodeo

Deployment Support

- COW deployed, 2 sectors covering grounds
- Over 100 devices deployed
 - Safety and Security Committee
 - Directions & Assistance (Lost Children)
 - Bus Tents
- Solutions:
 - Situation Awareness
 - Push to Talk App
 - LMR Integration
- Staffed Support Team: 5:30AM Midnight



2017 Super Bowl



February 5, 2017

Brazos County Introduction

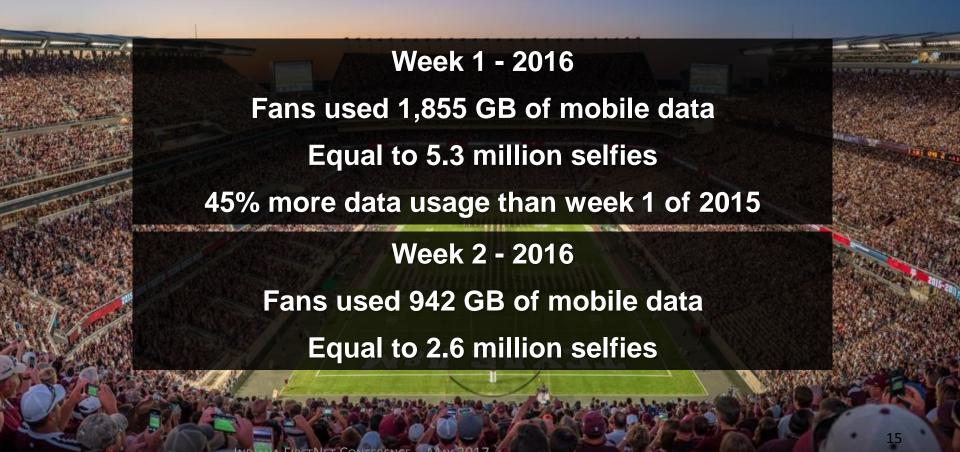
"BRAH-zuhs"

- Brazos County Stats
 - Population: 209,152
 - Area (sq. mi.): 592.1
- Largest Jurisdictions
 - City of Bryan
 - City of College Station
 - Texas A&M University



Texas A&M Data Usage

Texas A&M Fans Set All-time Record for Data Usage for AT&T



Texas A&M Data Usage

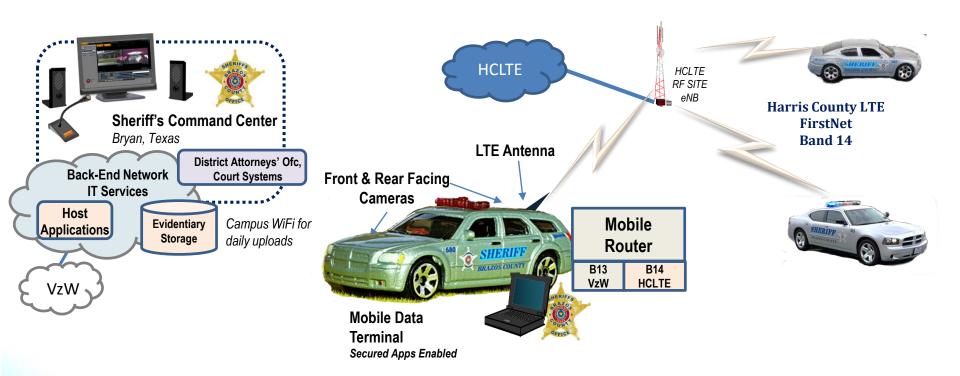
October 8, 2016 Texas A&M vs University of Tennessee

Data consumption toppled records set at 2016 Super Bowl

Nearly half of the 106,248 fans used the stadium's inhouse Wi-Fi – 8.2 Terabytes of data used
30,000 Fans using the system simultaneously
AT&T and Verizon customers used 3.8 terabytes
Usage data collected over ~ 4 hours

Equipping Brazos County





 Dramatic results are achieved by creating a healthy ecosystem of secured networks, applications, cloud-based services and specialized devices.

Operational Applications on HCLTE



Records, Maps, Building Plans



Streaming, Mobile Video View Video Files







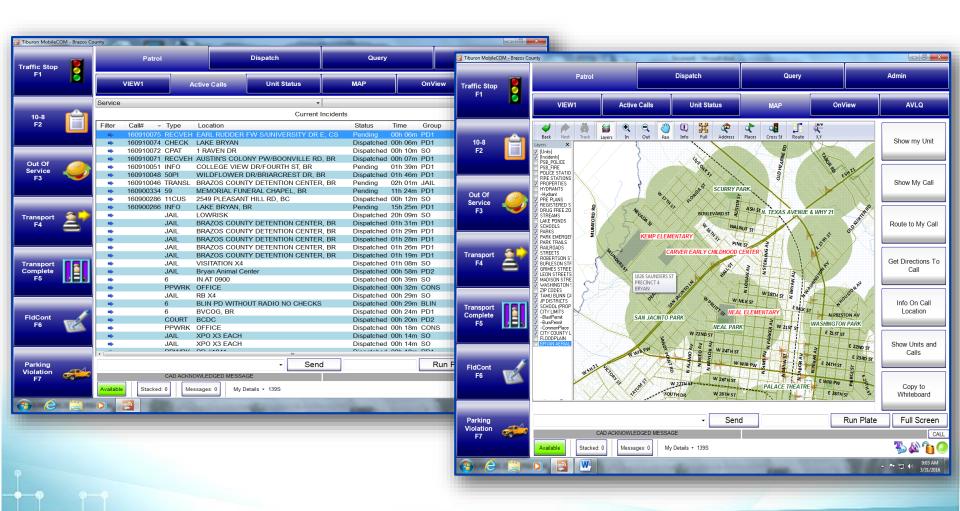
Computer Aided Dispatch CAD Integrated CAD



In-house Cameras (Ocularis™)

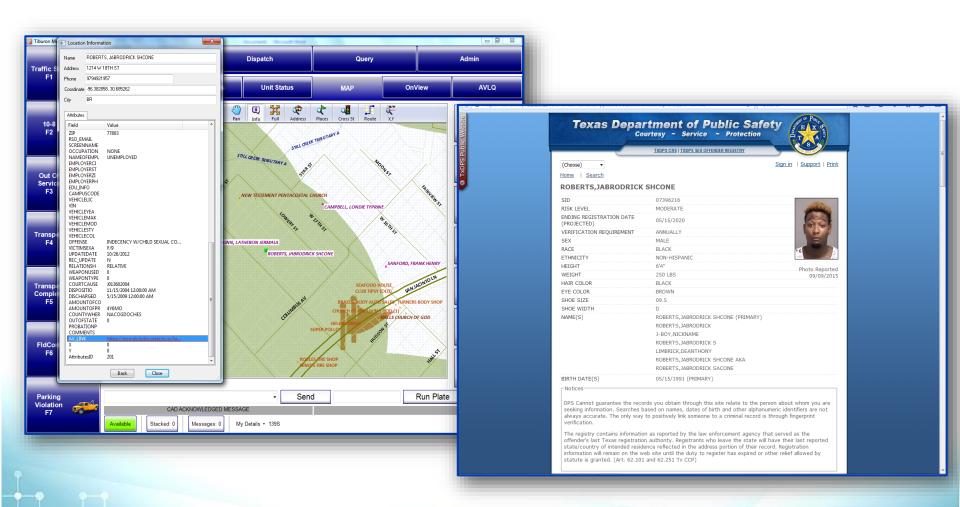
Brazos County: CAD Data





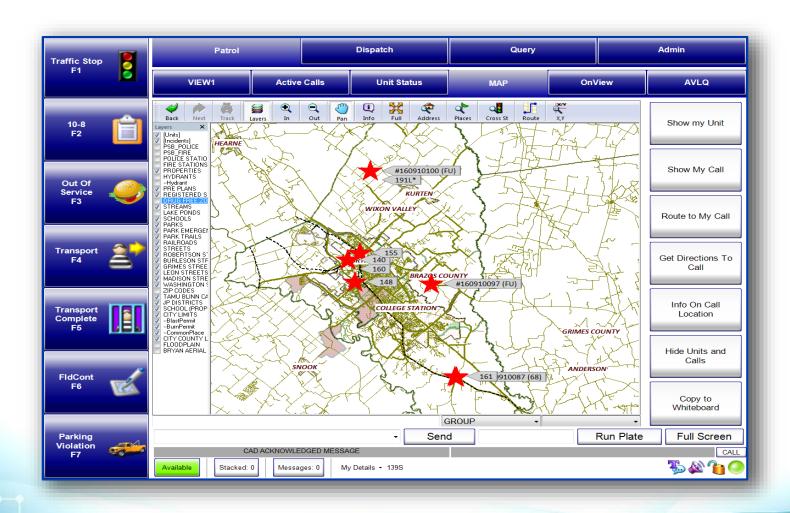
Brazos County: CAD Integration





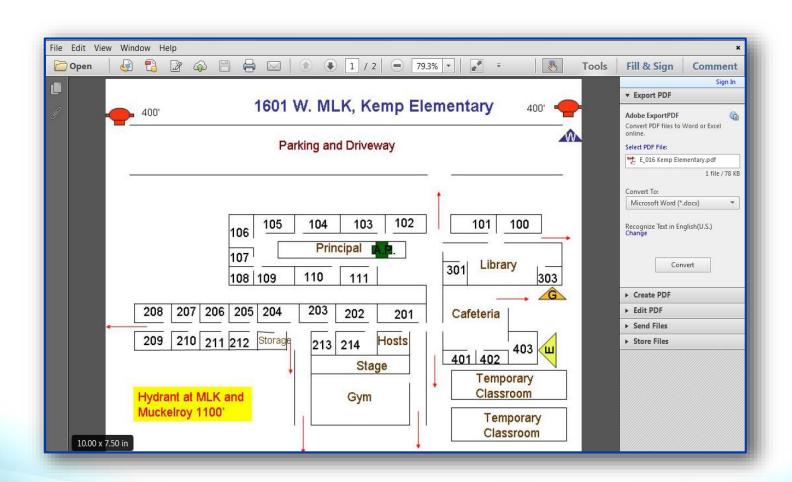
Brazos County: Mapping Data





Brazos County: Building Pre-Plan





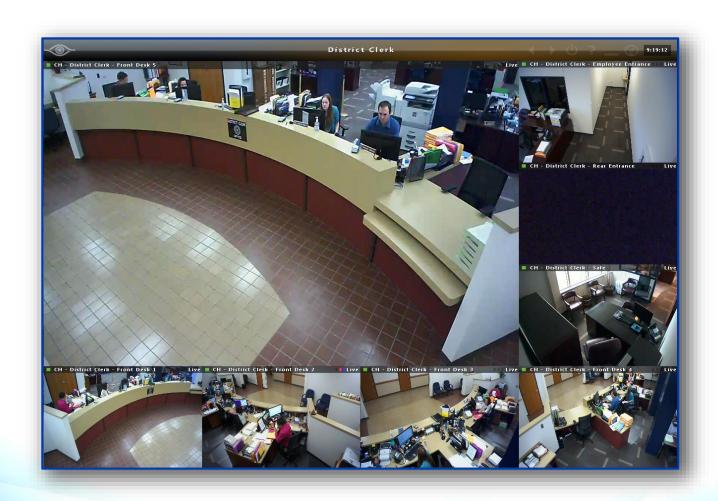
Brazos County: Mobile Video





Brazos County: Security Cameras





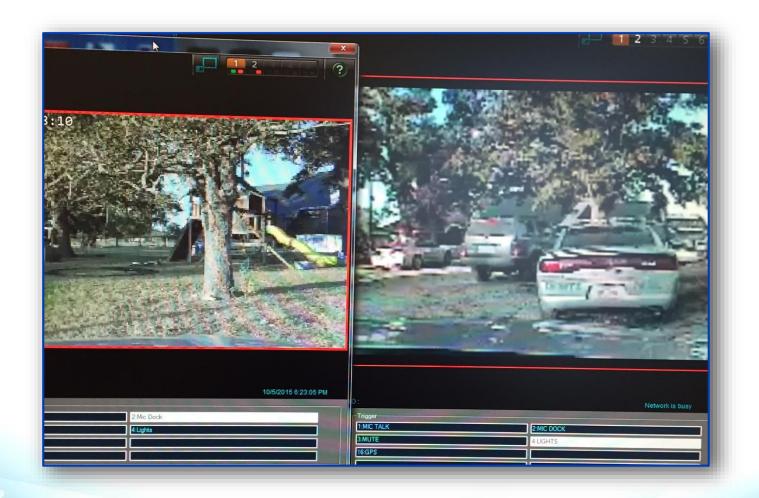
Brazos County: Tornado & Flooding





Brazos County: Armed Stand-off







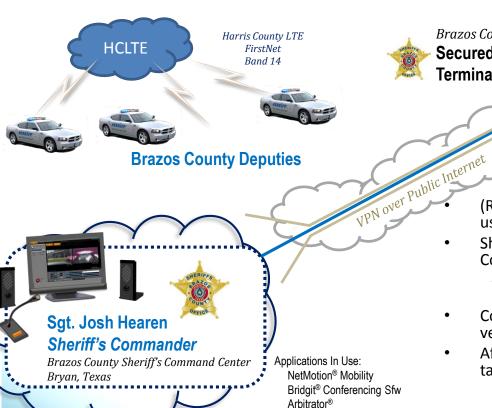


Thank You!

Please join us in thanking Sheriff Chris Kirk, Brazos County Sheriff's Office and Todd Early, Texas Department of Public Safety for sponsoring and supporting today's demonstration!

Indiana FirstNet Conference Setup





Brazos County
Secured Mobile Data
Terminal (MDT)



Lt. Tom Randall

Remote Commander

- (Ret.) Lt. Tom Randall, Remote Commander here in Indiana is using a County laptop to access Command Center using VPN
- Sheriff's Commander, Sgt. Josh Hearen, is on duty at the Sheriff's Command Center in Bryan, Texas
 - Using a screen sharing program, audience will see what Sgt. Hearen sees
- Command Center will stream live video from working Deputies in vehicles
- After showing primary applications, Josh, Tom and Deputies will take questions from the audience